Introduction
Current Nordic dairy herd health recording and the way forward

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Registrations in general

The goal by making registrations:

• Management tools (daily and strategic)
• Genetic tools (EBVs)
• Documentation

To create values for farmers
Registrations in general

Requirements for both management, genetic and documentation tools:
- Unique trait definition (code)
- Complete registration
- Easy and cheap registration
Registrations in general

Requirement for both management, genetic and documentation tools:

- **U**nique trait definition (code)
- **C**omplete registration (all)
- **E**asy and cheap registration

+ **N**ordic?
Possibilities joint Nordic registrations

- Improved Nordic EBVs (NAV)
- Joint Nordic management tools (today national)
- Better comparison of health status across countries (difficult today)
NAV focus registrations

The goal to register the same traits in all three NAV countries
Harmonization of type traits

- Type traits
  - Exactly the same traits classified (start 2005) (Finland 4 new, Denmark 1 new)
  - Joint manual
  - Nordisk classifier workshop every 2\textsuperscript{nd} year
Harmonization of calving traits

Calving ease
(Sweden changes to four classes during 2012)
# Harmonisation of claw diseases

<table>
<thead>
<tr>
<th>Trait</th>
<th>Grade</th>
<th>Description</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermatitis</td>
<td>1 mild</td>
<td>Inflammation of the digital and/or interdigital skin with excudation or dry crusts (hyperkeratosis). Not painful</td>
<td></td>
</tr>
<tr>
<td>Digital dermatitis</td>
<td>2 severe</td>
<td>Inflammation of the digital and/or interdigital skin with erosion, bleeding ulcerations. Painful and can cause lameness</td>
<td>M2 (Döpfer et al., 1997)</td>
</tr>
<tr>
<td>Heel horn erosion</td>
<td>1 mild</td>
<td>Superficial erosions of the bulbs, pits, V-shaped or circular. Not painful.</td>
<td></td>
</tr>
<tr>
<td>Heel horn erosion</td>
<td>2 severe</td>
<td>Profound erosions of the bulbs, typical V-shaped or circular, extending to the corium</td>
<td></td>
</tr>
<tr>
<td>Sole hemorrhage</td>
<td>1 mild</td>
<td>Superficial hemorrhage of the horn of sole and/or white line, disappears at normal trimming</td>
<td></td>
</tr>
<tr>
<td>Sole hemorrhage</td>
<td>2 severe</td>
<td>Profound hemorrhage of the horn of sole and/or white line, remains after trimming</td>
<td></td>
</tr>
<tr>
<td>Sole ulcer</td>
<td>1 mild</td>
<td>Penetration through the sole horn exposing fresh corium. Most likely lameness</td>
<td></td>
</tr>
<tr>
<td>Sole ulcer</td>
<td>2 severe</td>
<td>Penetration through the sole horn exposing affected corium with necrotic miss coloured tissue and or protruding granulation tissue. Lameness</td>
<td></td>
</tr>
<tr>
<td>Wart growth</td>
<td>1</td>
<td>Papillomatoes dermatitis, chronic stage of digital dermatitis</td>
<td></td>
</tr>
<tr>
<td>ID hyperplasia</td>
<td>Only recorded in one grade</td>
<td>Interdigital growth of fibrous tissue</td>
<td></td>
</tr>
</tbody>
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<tr>
<th>Trait</th>
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<tbody>
<tr>
<td>ID phlegmon</td>
<td>1</td>
<td>Interdigital infection with <em>Fusobacterium necrophorum</em>, open wound, swollen foot, fever, odorous smell, lameness</td>
<td></td>
</tr>
<tr>
<td>Fissure white line</td>
<td>1 (mild)</td>
<td>Separation in the white line, present after normal trimming. Separation needs to be removed, leaving normal horn wall and white line</td>
<td></td>
</tr>
<tr>
<td>Abscess, ulcer of white line</td>
<td>2 (severe)</td>
<td>Purulent exudation originating from a fissure of the white line, lameness</td>
<td></td>
</tr>
<tr>
<td>Abscess, ulcer of toe</td>
<td>2 (severe)</td>
<td>Ulceration of toe with abscess and or necrotic tissue, lameness</td>
<td></td>
</tr>
<tr>
<td>Double sole</td>
<td>Only recorded in one grade</td>
<td>Two or more layers of undermined sole horn</td>
<td></td>
</tr>
<tr>
<td>Laminitic ring</td>
<td>Only recorded in one grade</td>
<td>Concave deviation of the dorsal wall with horizontal lines i.e. laminitic ring</td>
<td></td>
</tr>
<tr>
<td>Asymmetric claws</td>
<td>Only recorded in one grade</td>
<td>Significant difference in width between outer and inner claws</td>
<td></td>
</tr>
<tr>
<td>Screw claw</td>
<td>Only recorded in one grade</td>
<td>Inward torsion length wise of the either outer or inner claw</td>
<td></td>
</tr>
<tr>
<td>Over grown claws</td>
<td>Only recorded in one grade</td>
<td>Severely overgrown toes</td>
<td></td>
</tr>
<tr>
<td>Scissor claws</td>
<td>Only recorded in one grade</td>
<td>Tip of toes crossing each other</td>
<td></td>
</tr>
<tr>
<td>Lameness</td>
<td>1, mild</td>
<td>Stands normal but walks with an arched back and with stiffness</td>
<td></td>
</tr>
<tr>
<td>Lameness</td>
<td>2, severe</td>
<td>Stands and walks with and arched back and is clearly lame, bobbing of the head</td>
<td></td>
</tr>
<tr>
<td>Hock lesion</td>
<td>1 mild</td>
<td>Swollen hock with superficial decubital injury</td>
<td></td>
</tr>
<tr>
<td>Hock lesion</td>
<td>2 severe</td>
<td>Swollen hock with ulcer</td>
<td></td>
</tr>
</tbody>
</table>
Harmonisation of claw diseases

- engelsk: Heel horn erosion
- dansk: Balleråd / Balleførrådnelse
- svensk: Klövröta
- Finsk: Kantasyöpymä

Mild

Severe
Joint Nordic registrations program
Disease registration

More than 300 disease codes

Treatment policy differ between countries and years

=>

Large country and year differences in disease incidences

NAV work
Johansson, 2008
Handling of diseases in EBVs

Mastitis – pooled across several codes

Other diseases pooled within
- Reproductive diseases
- Metabolic diseases,
- Feet and legs diseases
Nordic cooperation

• Data collection – joint by common IT solutions
  • Program for type traits registrations (developed in Finland)
  • Program for registration of claw health data (developed in Denmark)
• Registration – 100% the same for all new and old traits across (F, S, DK and partly N)
  • Claw trimmer data – 100% the same definitions of diseases
  • Type traits – joint manual
• Calving traits – Sweden change to 4 classes
Possibilities joint Nordic registrations – health traits

• Improved Nordic EBVs (NAV)
• Joint Nordic management tools (today national)
• Better comparison of health status across countries (difficult today)
How can we improve the health recording systems?

**National**
- **U**nique trait definition, (code)
- **C**omplete registration (all)
- **E**asy and cheap registration

**or**

**Nordic**
- **U**nique trait definition (code)
- **C**omplete registration (all)
- **E**asy and cheap registration
Questions